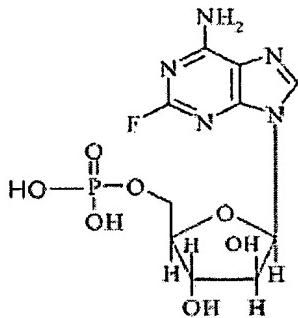


Listing of Claims

Claims:

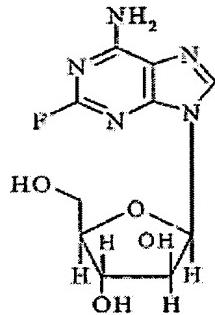
1. (Original) A process for the preparation of fludarabine phosphate (I)



(I)

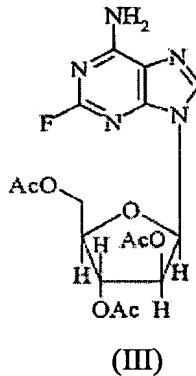
comprising the following steps:

- a) reaction of 2-fluoroadenine with 9-beta-D-arabinofuranosyl-uracil in the presence of *Enterobacter aerogenes* to give crude fludarabine (II);



(II)

- b) treatment of crude fludarabine with acetic anhydride to give 2', 3', 5'-tri-O-acetyl-9-beta-D-arabinofuranosyl-2-fluoroadenine (III);



c) hydrolysis and recrystallisation of compound (III) to give pure fludarabine (II) ; d) phosphorylation of fludarabine to give fludarabine phosphate (I).

2. (Original) A process according to claim 1 wherein step a) is carried out at a temperature comprised between 50 and 70° C, and the molar ratio between 9-β-D-arabinofuranosyl-uracil and 2-fluoroadenine ranges from 5:1 to 7:1.

3. (Currently amended) A process according to claim 1 or 2 wherein crude fludarabine from step a) is recovered by dialysis.

4. (Currently amended) A process according to ~~any one of claims 1-3~~claim 1 wherein step b) is carried out by dissolving crude fludarabine in 9-11 volumes of acetic anhydride at 90-100° C.

5. (Currently amended) A process according to ~~any one of claims 1-4~~claim 1 wherein intermediate (III) from step b) is hydrolysed with methanol and ammonium hydroxide.

6. (Currently amended) A process according to ~~any one of claims 1-5~~claim 1 wherein fludarabine obtained from step c) is hot-crystallised from water or from a water/ethanol mixture.

7. (Currently amended) A process according to ~~any one of claims 1-6~~claim 1 wherein the phosphorylation reaction of step d) is carried out at -10° C and the resulting fludarabine phosphate is precipitated from water at 0 ° C.

8. (Currently amended) A process according to ~~any one of claims 1-7~~claim 1 wherein fludarabine phosphate is purified by treatment with an organic amine or NH<sub>4</sub>OH followed by acidic hydrolysis.

9. (Original) A process according to claim 8 wherein the organic amine is selected from the group consisting of triethylamine, diisopropylamine, benzylamine, tributylamine, dibenzylamine and dicyclohexylamine.

10. (Original) Fludarabine phosphate salts with organic amines or with ammonia.